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TECH CENTER 1600/2900

SEQUENCE LISTING

<110> SHAO, Wei et al.

<120> ISOLATED HUMAN TRANSPORTER PROTEINS,
NUCLEIC ACID MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS,
AND USES THEREOF

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<170> FastSEQ for Windows Version 4.0

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<212> DNA
<213> Homo sapiens

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 Asp Trp Val Arg Glu Lys Cys Lys Asp Arg Glu Arg His Arg Arg Ile
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 <213> Homo sapiens

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 20 25 30
 Asp Asp Phe His Thr Ile Asp Trp Val Arg Glu Lys Cys Lys Asp Arg
 35 40 45
 Glu Arg His Arg Arg Ile Asn Ser Lys Lys Lys Glu Ser Ala Trp Glu
 50 55 60
 Met Thr Lys Ser Leu Tyr Asp Ala Trp Ser Gly Trp Leu Val Val Thr
 65 70 75 80

Leu Thr Gly Leu Ala Ser Gly Ala Leu Ala Gly Leu Ile Asp Ile Ala
 85 90 95
 Ala Asp Trp Met Thr Asp Leu Lys Glu Gly Ile Cys Leu Ser Ala Leu
 100 105 110
 Trp Tyr Asn His Glu Gln Cys Cys Trp Gly Ser Asn Glu Thr Thr Phe
 115 120 125
 Glu Glu Arg Asp Lys Cys Pro Gln Trp Lys Thr Trp Ala Glu Leu Ile
 130 135 140
 Ile Gly Gln Ala Glu Gly Pro Gly Ser Tyr Ile Met Asn Tyr Ile Met
 145 150 155 160
 Tyr Ile Phe Trp Ala Leu Ser Phe Ala Phe Leu Ala Val Ser Leu Val
 165 170 175
 Lys Val Phe Ala Pro Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys
 180 185 190
 Thr Ile Leu Ser Gly Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr
 195 200 205
 Leu Met Ile Lys Thr Ile Thr Leu Val Leu Ala Val Ala Ser Gly Leu
 210 215 220
 Ser Leu Gly Lys Glu Gly Pro Leu Val His Val Ala Cys Cys Cys Gly
 225 230 235 240
 Asn Ile Phe Ser Tyr Leu Phe Pro Lys Tyr Ser Thr Asn Glu Ala Lys
 245 250 255
 Lys Arg Glu Val Leu Ser Ala Ala Ser Ala Ala Gly Val Ser Val Ala
 260 265 270
 Phe Gly Ala Pro Ile Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser
 275 280 285
 Tyr Tyr Phe Pro Leu Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu
 290 295 300
 Val Ala Ala Phe Val Leu Arg Ser Ile Asn Pro Phe Gly Asn Ser Arg
 305 310 315 320
 Leu Val Leu Phe Tyr Val Glu Tyr His Thr Pro Trp Tyr Leu Phe Glu
 325 330 335
 Leu Phe Pro Phe Ile Leu Leu Gly Val Phe Gly Gly Leu Trp Gly Ala
 340 345 350
 Phe Phe Ile Arg Ala Asn Ile Ala Trp Cys Arg Arg Arg Lys Ser Thr
 355 360 365
 Lys Phe Gly Lys Tyr Pro Val Leu Glu Val Ile Ile Val Ala Ala Ile
 370 375 380
 Thr Ala Val Ile Ala Phe Pro Asn Pro Tyr Thr Arg Leu Asn Thr Ser
 385 390 395 400
 Glu Leu Ile Lys Glu Leu Phe Thr Asp Cys Gly Pro Leu Glu Ser Ser
 405 410 415
 Ser Leu Cys Asp Tyr Arg Asn Asp Met Asn Ala Ser Lys Ile Val Asp
 420 425 430
 Asp Ile Pro Asp Arg Pro Ala Gly Ile Gly Val Tyr Ser Ala Ile Trp
 435 440 445
 Gln Leu Cys Leu Ala Leu Ile Phe Lys Ile Ile Met Thr Val Phe Thr
 450 455 460
 Phe Gly Ile Lys Val Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Ile
 465 470 475 480
 Gly Ala Ile Ala Gly Arg Ile Val Gly Ile Ala Val Glu Gln Leu Ala
 485 490 495
 Tyr Tyr His His Asp Trp Phe Ile Phe Lys Glu Trp Cys Glu Val Gly
 500 505 510
 Ala Asp Cys Ile Thr Pro Gly Leu Tyr Ala Met Val Gly Ala Ala Ala
 515 520 525
 Cys Leu Gly Gly Val Thr Arg Met Thr Val Ser Leu Val Val Ile Val

530	535	540
Phe Glu Leu Thr Gly Gly	Leu Glu Tyr Ile Val Pro	Leu Met Ala Ala
545	550	555
Val Met Thr Ser Lys Trp Val Gly Asp Ala Phe	Gly Arg Glu Gly	Ile
565	570	575
Tyr Glu Ala His Ile Arg Leu Asn Gly Tyr Pro	Phe Leu Asp Ala Lys	
580	585	590
Glu Glu Phe Thr His Thr Thr Leu Ala Ala Asp Val	Met Arg Pro Arg	
595	600	605
Arg Asn Asp Pro Pro Leu Ala Val Leu Thr Gln Asp	Asn Met Thr Val	
610	615	620
Asp Asp Ile Glu Asn Met Ile Asn Glu Thr Ser	Tyr Asn Gly Phe Pro	
625	630	635
Val Ile Met Ser Lys Glu Ser Gln Arg Leu Val	Gly Phe Ala Leu Arg	
645	650	655
Arg Asp Leu Thr Ile Ala Ile Glu Ser Ala Arg	Lys Lys Gln Glu Gly	
660	665	670
Ile Val Gly Ser Ser Arg Val Cys Phe Ala Gln His	Thr Pro Ser Leu	
675	680	685
Pro Ala Glu Ser Pro Arg Pro Leu Lys Leu Arg	Ser Ile Leu Asp Met	
690	695	700
Ser Pro Phe Thr Val Thr Asp His Thr Pro Met	Glu Ile Val Val Asp	
705	710	715
Ile Phe Arg Lys Leu Gly Leu Arg Gln Cys Leu Val	Thr His Asn Gly	
725	730	735
Arg Leu Leu Gly Ile Ile Thr Lys Lys Asp Ile Leu	Arg His Met Ala	
740	745	750
Gln Thr Ala Asn Gln Asp Pro Ala Ser Ile Met Phe	Asn	
755	760	765

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<211> 767
<212> PRT
<213> Homo sapiens

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Asp Asp Phe His Thr Ile Asp Trp Val Arg Glu Lys Cys Lys Asp Arg			
35	40	45	
Glu Arg His Arg Arg Ile Asn Ser Lys Lys Lys Glu Ser Ala Trp Glu			
50	55	60	
Met Thr Lys Ser Leu Tyr Asp Ala Trp Ser Gly Trp Leu Val Val Thr			
65	70	75	80
Leu Thr Gly Leu Ala Ser Gly Ala Leu Ala Gly Leu Ile Asp Ile Ala			
85	90	95	
Ala Asp Trp Met Thr Asp Leu Lys Glu Gly Ile Cys Leu Ser Ala Leu			
100	105	110	
Trp Tyr Asn His Glu Gln Cys Cys Trp Gly Ser Asn Glu Thr Thr Phe			
115	120	125	
Glu Glu Arg Asp Lys Cys Pro Gln Trp Lys Thr Trp Ala Glu Leu Ile			
130	135	140	
Ile Gly Gln Ala Glu Gly Pro Gly Ser Tyr Ile Met Asn Tyr Ile Met			
145	150	155	160

Tyr Ile Phe Trp Ala Leu Ser Phe Ala Phe Leu Ala Val Ser Leu Val
 165 170 175
 Lys Val Phe Ala Pro Tyr Ala Cys Gly Ser Gly Ile Pro Glu Ile Lys
 180 185 190
 Thr Ile Leu Ser Gly Phe Ile Ile Arg Gly Tyr Leu Gly Lys Trp Thr
 195 200 205
 Leu Met Ile Lys Thr Ile Thr Leu Val Leu Ala Val Ala Ser Gly Leu
 210 215 220
 Ser Leu Gly Lys Glu Gly Pro Leu Val His Val Ala Cys Cys Cys Gly
 225 230 235 240
 Asn Ile Phe Ser Tyr Leu Phe Pro Lys Tyr Ser Thr Asn Glu Ala Lys
 245 250 255
 Lys Arg Glu Val Leu Ser Ala Ala Ser Ala Ala Gly Val Ser Val Ala
 260 265 270
 Phe Gly Ala Pro Ile Gly Gly Val Leu Phe Ser Leu Glu Glu Val Ser
 275 280 285
 Tyr Tyr Phe Pro Leu Lys Thr Leu Trp Arg Ser Phe Phe Ala Ala Leu
 290 295 300
 Val Ala Ala Phe Val Leu Arg Ser Ile Asn Pro Phe Gly Asn Ser Arg
 305 310 315 320
 Leu Val Leu Phe Tyr Val Glu Tyr His Thr Pro Trp Tyr Leu Phe Glu
 325 330 335
 Leu Phe Pro Phe Ile Leu Leu Gly Val Phe Gly Gly Leu Trp Gly Ala
 340 345 350
 Phe Phe Ile Arg Ala Asn Ile Ala Trp Cys Arg Arg Lys Ser Thr
 355 360 365
 Lys Phe Gly Lys Tyr Pro Val Leu Glu Val Ile Ile Val Ala Ala Ile
 370 375 380
 Thr Ala Val Ile Ala Phe Pro Asn Pro Tyr Thr Arg Leu Asn Thr Ser
 385 390 395 400
 Glu Leu Ile Lys Glu Leu Phe Thr Asp Cys Gly Pro Leu Glu Ser Ser
 405 410 415
 Ser Leu Cys Asp Tyr Arg Asn Asp Met Asn Ala Ser Lys Ile Val Asp
 420 425 430
 Asp Ile Pro Asp Arg Pro Ala Gly Ile Gly Val Tyr Ser Ala Ile Trp
 435 440 445
 Gln Leu Cys Leu Ala Leu Ile Phe Lys Ile Ile Met Thr Val Phe Thr
 450 455 460
 Phe Gly Ile Lys Val Pro Ser Gly Leu Phe Ile Pro Ser Met Ala Ile
 465 470 475 480
 Gly Ala Ile Ala Gly Arg Ile Val Gly Ile Ala Val Glu Gln Leu Ala
 485 490 495
 Tyr Tyr His His Asp Trp Phe Ile Phe Lys Glu Trp Cys Glu Val Gly
 500 505 510
 Ala Asp Cys Ile Thr Pro Gly Leu Tyr Ala Met Val Gly Ala Ala Ala
 515 520 525
 Cys Leu Gly Gly Val Thr Arg Met Thr Val Ser Leu Val Val Ile Val
 530 535 540
 Phe Glu Leu Thr Gly Gly Leu Glu Tyr Ile Val Pro Leu Met Ala Ala
 545 550 555 560
 Val Met Thr Ser Lys Trp Val Gly Asp Ala Phe Gly Arg Glu Gly Ile
 565 570 575
 Tyr Glu Ala His Ile Arg Leu Asn Gly Tyr Pro Phe Leu Asp Ala Lys
 580 585 590
 Glu Glu Phe Glu Phe Thr His Thr Thr Leu Ala Ala Asp Val Met Arg
 595 600 605
 Pro Arg Arg Asn Asp Pro Pro Leu Ala Val Leu Thr Gln Asp Asn Met

610	615	620
Thr Val Asp Asp Ile Glu Asn Met Ile Asn Glu Thr Ser Tyr Asn Gly		
625	630	635
Phe Pro Val Ile Met Ser Lys Glu Ser Gln Arg Leu Val Gly Phe Ala		640
645	650	655
Leu Arg Arg Asp Leu Thr Ile Ala Ile Glu Ser Ala Arg Lys Lys Gln		
660	665	670
Glu Gly Ile Val Gly Ser Ser Arg Val Cys Phe Ala Gln His Thr Pro		
675	680	685
Ser Leu Pro Ala Glu Ser Pro Arg Pro Leu Lys Leu Arg Ser Ile Leu		
690	695	700
Asp Met Ser Pro Phe Thr Val Thr Asp His Thr Pro Met Glu Ile Val		
705	710	715
Val Asp Ile Phe Arg Lys Leu Gly Leu Arg Gln Cys Leu Val Thr His		720
725	730	735
Asn Gly Arg Leu Leu Gly Ile Ile Thr Lys Lys Asp Ile Leu Arg His		
740	745	750
Met Ala Gln Thr Ala Asn Gln Asp Pro Ala Ser Ile Met Phe Asn		
755	760	765

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<213> Xenopus laevis

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Asn Ile Pro Leu Arg Asp Leu His Lys Arg Gly Thr His Tyr Thr Val
20 25 30
Thr Asn Gly Gly Ala Ile Asn Ser Thr Thr His Leu Leu Asp Leu Leu
35 40 45
Asp Glu Pro Ile Pro Gly Val Gly Thr Tyr Asp Asp
50 55 60

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<211> 4
<212> PRT
<213> Homo sapiens

<400> 7
Asn Glu Thr Thr
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<210> 8
<211> 4
<212> PRT
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<400> 8
Asn Thr Ser Glu
1

<210> 9
<211> 4
<212> PRT
<213> Homo sapiens

<400> 9
Asn Ala Ser Lys
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<210> 10
<211> 4
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<400> 10
Asn Met Thr Val
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<211> 4
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<400> 11
Asn Glu Thr Ser
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<210> 12
<211> 4
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<400> 12
Lys Lys Glu Ser
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<210> 13
<211> 4
<212> PRT
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<400> 13
Arg Arg Lys Ser
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<210> 14
<211> 4
<212> PRT
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<400> 14
Arg Lys Ser Thr

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<400> 15
Ser Ala Trp Glu
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<210> 16
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<212> PRT
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<400> 16
Ser Leu Tyr Asp
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<210> 17
<211> 4
<212> PRT
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<400> 17
Thr Thr Phe Glu
1

<210> 18
<211> 4
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<400> 18
Thr Phe Glu Glu
1

<210> 19
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<400> 19
Thr Trp Ala Glu
1

<210> 20
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<400> 20
Ser Thr Asn Glu
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<210> 21
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<400> 21
Ser Leu Glu Glu
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<210> 22
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<400> 22
Ser Leu Cys Asp
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<400> 23
Thr Val Asp Asp
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<400> 24
Ser Ile Leu Asp
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<210> 25
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<400> 25
Thr Val Thr Asp
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<210> 26

<211> 4
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<400> 26
Thr Pro Met Glu
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<210> 27
<211> 4
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<400> 27
Thr Lys Lys Asp
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<400> 28
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<210> 29
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<400> 29
Gly Ala Leu Ala Gly Leu
1 5

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Gly Ile Cys Leu Ser Ala
1 5

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<400> 31
Gly Ser Asn Glu Thr Thr
1 5

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<400> 32
Gly Leu Ser Leu Gly Lys
1 5

<210> 33
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<400> 33
Gly Asn Ile Phe Ser Tyr
1 5

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<400> 34
Gly Val Ser Val Ala Phe
1 5

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Gly Ala Pro Ile Gly Gly
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Gly Val Leu Phe Ser Leu
1 5

<210> 37
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<400> 37
Gly Val Phe Gly Gly Leu
1 5

<210> 38
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<400> 38
Gly Gly Leu Trp Gly Ala
1 5

<210> 39
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<400> 39
Gly Leu Trp Gly Ala Phe
1 5

<210> 40
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<400> 40
Gly Val Tyr Ser Ala Ile
1 5

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<400> 41
Gly Ala Ile Ala Gly Arg
1 5

<210> 42
<211> 6
<212> PRT
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<400> 42
Gly Ala Ala Ala Cys Leu
1 5

<210> 43
<211> 6

<212> PRT
<213> Homo sapiens

<400> 43
Gly Ile Tyr Glu Ala His
1 5

<210> 44
<211> 6
<212> PRT
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<400> 44
Gly Ile Val Gly Ser Ser
1 \ 5

<210> 45
<211> 6
<212> PRT
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<400> 45
Gly Leu Arg Gln Cys Leu
1 5

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<213> Homo sapiens

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taaacaagaa agttgcctta ttctgaact tcataaaaat ttcttattaa gagacaattt 180
ctgaatttta taacaatttc tagaacagtt gagtacctca ctttgagaca cattttgct 240
aaaagttaaa aacacaaaac ccattatgaga taaaatagga agcttagaga gataggaaag 300
ycctctgctt agtaaacctc tttttgcgt agtttagaca catacaatag taaagttact 360
tagtacgttg atagtttct ttctcctcaa aagctacaat gtcttactag ctatccctt 420
caagaaaagga aacaagaagc cgctggagga gattgtgag tggataaaa cactattcaa 480
cttttcagtt attcggttt taaatcctca atgaaaggct gctgtattt agatgtttt 540
tttttattt ttaatagact tagaaccaag tttcttgaga aaccccttgcg atattgttgt 600
t 601

<210> 47
<211> 601
<212> DNA
<213> Homo sapiens

<400> 47
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cctctgcctt gtaaacctct ttttgcgtt gtttagacac atacaatagt aaagttactt 180
agtacgttga tagtttctt ttcctcaaa agctacaatg tcttacttagc tagttccctc 240
aagaaaaggaa acaagaagcc gctggaggag attggtgagt gggataaaaac actattcaac 300

ycttcagttt ttcgggtttt aaatcctcaa tgaaaggctg ctgtattata gagtattttt 360
tttttatTTT taatagactt agaaccgaagt ttcttgagaa acctttggca tatttagtt 420
tttttatggc tatgactcac atgacattac tgtataaaac tagtacattc tctcgtaaaa 480
ccacacaaac ttactagagt gctgctctca tttttctaca ttagaaatga aaaagggcat 540
tgtctgcatt caaaaattcc tttttacatc tctgtattac tttttccctt ttatattat 600
c 601

<210> 48
<211> 526
<212> DNA
<213> Homo sapiens

<400> 48
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acttgtgttt taagtctggt agaagcataa gaagttaaa cacagacaga atccctgtgga 180
agtttagtaaa ttcttagtga acgatagaaa tgatagaaat ctcttcttcc cccaaagtcc 240
caagaacaga ttagtctgct tttgacaagt gttatcaaag tagactgttc tcacatacac 300
rggggactca atagggcatt cctgggtggat ataataaaat gагtaaatgc gataacagga 360
ggaaatgcct agtgtgttgc tcttggatta gttttgatac aacaaaggca gctttgttgt 420
gagtcagtag agagggttagt gttagaaaggt ggaagttgga agagtggcag atccttagagg 480
actaatgatg ggcttaaacc acaaaaagtg tcgcttgc attgaa 526

<210> 49
<211> 601
<212> DNA
<213> Homo sapiens

<400> 49
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ttgatacaac aaaggcagct ttgttgtgag tcagtagaga gggtagtgtta gaaaggtgg 120
agtggaaaga gtggcagatc ctagaggact aatgatgggc taaaccaca aaaagtgtcg 180
cttgcattt gaaataaaag tttggggctt tatttttca attttctccc tgaatttatt 240
tcttgacatt cattagctca gcagtgtatc taaataaaagc tttttgggt ttcttattata 300
rtagagggtt gttccctttt ctcccttttggaaaatgtatca tttttgcac attatttgaa 360
aatccaggtg ttatatgata ttcttattgc cagagggaca ttctgcaggc tctttgtaaa 420
atgatttttag gattcagata ctattatata ttttattggc ctaatattt tatccaacta 480
gaaaattaaa cctcttctta aaaattaatc catctaagtg tctgtaaatt aaagaacaa 540
ctaaagattc tttatttgggt gtcagaaaact ccttgcattt acaacagtag tataaaacaa 600
a 601

<210> 50
<211> 601
<212> DNA
<213> Homo sapiens

<400> 50
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atccctgttc tactacttgc tagcgggtgtg accttgggccc ttgttaactc ttgacacctt 120
gttttccaaa ttataaaatg ggagataata atatctgtca cattgtgttg ttgtgaggat 180
tatatgaact aatataatgtt atgtcctgtgaa aacaatgtct ggtacacatt aagttat 240
aaatttagctg ttcttactgt tattattaga catgagctag ataacagtgg cctctacatg 300
kgaaagatta tttaattctt gatgttagttc agtttatcta tttttttat ttgtccct 360
tttgcatttga tgtcatatctt aaaaaacctgtt ccttaactcag gatcacaaaa atttactcct 420
gtatattata atttttagctc tttagatcta ggatccattt ttagctaatt tttatataatg 480
gtgtgaggta ggggtacggt ttcatctttt tgcacgtgaa tagccagttg tcccagcatc 540
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<211> 601
<212> DNA
<213> Homo sapiens

<400> 51
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tggaatttct ctactaggcc acctggaga aaagtatct tttttccagt ctttttgc 420
actgttttc agccaggaga tagtagagt aggttagtata atagtagtca ctggcatccg 480
gtagtcagcc ctccaaaaaa gttttgatt tttttttt tttttgtc 540
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601

<210> 52
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301)...(301)
<223> T may be either present or absent

<400> 52
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t
601

<210> 53
<211> 521
<212> DNA
<213> Homo sapiens

<400> 53
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attgtggatt ttttttttgc ttttttttgc ttttttttgc ttttttttgc ttttttttgc 480

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<210> 54
<211> 601
<212> DNA
<213> Homo sapiens

<220>
<221> variation
<222> (301) ... (301)
<223> T may be either present or absent

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cacacacttc atctttacta atctgataga gggaaatgat attgtggatt tgatttgcatt 240
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gacaaggctg attgagaaga ggtgtgtga gatgaagtgt atatcatcag tgaagaaag 480
caaattctta cagggcaaaa acaaaaccac aactctaagg gttattgtt ctactggaca 540
gaattcattt gcattttacc agataaaaaat tactattttc aatttatctt ttacaatca 600
t 601

<210> 55
<211> 601
<212> DNA
<213> Homo sapiens

<400> 55
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caaaaccaca actctaaggg ttattgtttc tactggacag aattcatttgc cattttacca 180
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tcggagaggg ggattttggca ggttcatagg acaatagtgg agggaaaggc agcagataaa 540
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t 601

<210> 56
<211> 601
<212> DNA
<213> Homo sapiens

<400> 56
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tagtcttcaa aatttccgc agcgtcaggt gactattatg caggctaaattt gttgacactc 180
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waaatttttt tactatttgc tttttttttt tttttttttt tttttttttt 360
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a 601

<210> 57
<211> 601
<212> DNA
<213> Homo sapiens

<400> 57
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acaattata agttccata ttaatatata tttgtgtgaa ctttgcatttca aatTTTattt 420
atattgttta tgaaagggtac agcctctgag attcatcaga ttgttatttac cttagggca 480
tatctaaaaaa taaaatacag tacatgaaaat ccagtctt aatccagtga ttcttaaact 540
ttttgctctc agatccccctt taaactcttta aaagatattt aagagctcca aggaggctt 600
g 601

<210> 58
<211> 601
<212> DNA
<213> Homo sapiens

<400> 58
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ttatacacag atcctgtctt taaaagaaca ttataatcca cttaactgtt aggaccagag 180
aatgaccgat aattcaaaacc atattgtctt acagaagaca tatataaaaat atggttatgt 240
gtaccaattt aggttcaaat ttgattcaat taaaacaat cttaggcaga ttgtatTTT 300
wttgtggacc ctttgcactc aaatctcaag gttcttattt aaatgcagat ctggctggg 360
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agtcagaag ttcaagacca gtctggccaa catagcgagg cccagtctca ttgaaagaaa 480
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aggatttaac aactgtctgtt aatgttagtga ttttgccttca gacttacctt ttccattttt 600
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<210> 59
<211> 601
<212> DNA
<213> Homo sapiens

<400> 59
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cttgcacggg ttagttgtt ctttgcgtt atgacccttga attttttttt tttgagactg 180
agtcttgc tgcgtccca agtggagtgc agtggcgcaaa tctcgttca ctgcaccc 240
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gcctcagcct cccaaagtgc tggattaca ggtgtgagcc accacacgtg gctatgaccc 480
tgatTTTgtt tcatttactt ttataatattt cttttgtt agataagtta attattctt 540
aatttggcca ttttatgtt tgagaaagta gttaatcaca gtgggtcaac agtacaaact 600
t 601

<210> 60
 <211> 393
 <212> DNA
 <213> Homo sapiens

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 cacctaggct aaaaaaattc agacacctgg gtcctggga tcaatcacgc atactgtgtc 180
 tcttgctc actcccrctg tctctctc tttctctcg ttccttttc ctctctct 240
 gtgtttct aggggtgtgg ctcaggaa ttggatttct tatattatag ctcaggattc 300
 ccaagaggc tgtttaat gtaccaaag aagtcttgc gcgtgactt ttttattcta 360
 ttcattgagg tagtcacaga ggccgacca cat 393

<210> 61
 <211> 601
 <212> DNA
 <213> Homo sapiens

<400> 61
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 aaaaaaattc agacacctgg gtcctggga tcaatcacgc atactgtgtc tcttgctc 120
 actcccgctg tctctctc tttctctcg ttccttttc ctctctct 180
 aggggtgtgg ctcaggaa ttggatttct tatattatag ctcaggattc ccaagaggc 240
 tgtttaat gtaccaaag aagtcttgc gcgtgactt ttttattcta ttcattgagg 300
 yagtcacaga ggccgacca cattcagagg agggacatac acttgctgg acaagtgtaa 360
 gagaattcat gatcatgtt taaaaccact tttatttagt ttctattgt gctgtataa 420
 attaccacaa cttaatggct taaaagccac acaaattaa tatcttacag ttctgcaa 480
 caaaagtctg aaacggatct cactgtgcta aaattaagg tttcgtaggg cattctggag 540
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<210> 62
 <211> 601
 <212> DNA
 <213> Homo sapiens

<400> 62
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 ttcatattgt acttttaaaa atatatattt tttatattca atagttttt ggttacaagt 240
 ggtttgggtt acgtggatga attctataat ggtgaagtct aagattttac tgcaactgtc 300
 rcccaagtag tatatattgt atccagcata ttgtccttt tttttctt tttttttt 360
 atttcaccat ggactaatga aaattttgtt agggactgac attagggcac ctttgagcta 420
 ctttgagcta aaggaaataa cccttgaatt ttttctgtt tggccttagag aatgtggttt 480
 gtttgtaac tgaattcatg ggattgttaa ggtacaagat ttgtcttag ttttatttgc 540
 actaggattt tgctatatta atacaatgtg aaaagaatca aaagtgttag aaataaatgc 600
 a 601

<210> 63
 <211> 505
 <212> DNA
 <213> Homo sapiens

<400> 63

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aggcttgaa gaaattgact ctagagagta tattttgggt actttggga aatgaagttg 180
gattagttag aaggaacaga ttatgaaaag acaagaaacc tgattaatgt caggatgatt 240
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cttgagaaa gttccttctt gaagttttaa ttttctgtat ataaaaagta ataacacctg 360
gtgatctgct aggtttgtt tgaggattat atgagataaa atgcattgcaa aactgttata 420
atagtgcctg gtaaaataag tgccttagtt taaaaacaag tctttgtaaa ctgcttagga 480
catgcctgggt atagggtttagg tatgt 505

<210> 64
<211> 601
<212> DNA
<213> Homo sapiens

<400> 64
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taatagtgcc tggtaaaaata agtgcctagt tttaaaaaca agtctttgtt aactgcttag 180
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aggctgaggt gggaggatca tgggagtc a gggatgttgg accagcctgg gcaactgagt 540
gagaccccaa atcctaaaaa atacaaagta aaaaaggaat aaagtcatga gggcttggac 600
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<210> 65
<211> 601
<212> DNA
<213> Homo sapiens

<400> 65
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tacaaggcctg agccaccatg gcggccaaa atatttcac tataacaaat atcatatctg 300
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<210> 66
<211> 601
<212> DNA
<213> Homo sapiens

<400> 66
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gcagcactct gactttatta tgctcaaattc gctcttcattt attaatgtgtt gtttctccat 180
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yaatatacat gatactaact gaaattaatc attctgtata attggataga aaagcatgag 360
taagaattca attggatata tatttaatta attgccaaga tttcacatt tcctgactac 420
aacaataaaa tcaaataaat tgatggctt aaaaaaagaa atctcaaatg ttagtcaat 480
gaagaacatc tattgaatga gtgaatgttc attatatata gtgcatttc tgagctttt 540
tggaggggga agttgcctcc atgctctgag aactttaag gatcgataca ttatTTTaa 600
c
601

<210> 67
<211> 601
<212> DNA
<213> Homo sapiens

<400> 67
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tgaaagtccct ttaatccctt aatcataaaat acattttattt agcttacttt aagaagtggc 240
agtcacagct cctgaacatt agggagtgtt tctttggc agcatttattt atttagtgca 300
mattgcctt aattttaaatt taaaattata gtaaaatcca cgggagttt taagtctcct 360
cacagcctt tgctaccctt tcaccaaggt agatccagat gataactgct gtgtgtgac 420
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atatcagagg tctatagcta tgatcaata ttaagttct ttgtacttt gctttgttagt 540
catttcatt ccaaacttcc ataattatta ttttacttt aaaaagaaaa ataaccacc 600
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601

<210> 68
<211> 601
<212> DNA
<213> Homo sapiens

<400> 68
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601

<210> 69
<211> 601
<212> DNA
<213> Homo sapiens

<400> 69
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gctcatcaaa caggtaaagt ctgcaggaa gcgagaacga aatctctcat tgtgtgccgt 180
gtggctcaaa accgaaaaca atgaagctt gtttaaagg ataaagttt ctttttgtt 240
ttcctctcag actttatgga taatgtgacc gggctttagt caaattttctt atttctaaaa 300
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agtaaaagaga aggaagtatt ctgatttagt gtatctggta ttaattgtcat gttaaaacac 420
tggaaattttt aaaattgaaa ttagatcagt cattctttc tttctcaag atatctcatg 480

gctgacactg aagaagaaat gtaattcata acttgcacta aatgttatatt tttttctta 540
aaaatttacc attcttattt atattttat ggattaaaat ttataaaata cagatcagtt 600
a 601

<210> 70
<211> 601
<212> DNA
<213> Homo sapiens

<400> 70
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ttctaaaact actactatga tatacaagtg ctgttgagca taattaaata aaatgctgct 180
gcttgacag taaagagaag gaagtattct gattagctgt atctggatt aattgcattgt 240
taaaacactg gaattttaa aattgaaatt agatcagtca ttctttctt ttctcaagat 300
rtctcatggc tgacactgaa gaagaaatgt aattcataac ttgcactaaa tgtatattt 360
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gatcagttaa tattgactt aagtaattt accttttaa tgtgatttt atagaataat 480
tcagacttac aaatacagag atatgaacaa agtttacagt gggacacaag gttttaaaaa 540
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g 601

<210> 71
<211> 601
<212> DNA
<213> Homo sapiens

<400> 71
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tcaagatatc tcatggctga cactgaagaa gaaatgtaat tcataacttg cactaaatgt 180
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aaatacagat cagttaatat tgcacttaag taattttacc ttttaatgt gattttata 300
raataattca gacttacaaa tacagagata tgaacaaagt ttacagtggg aacaaagggt 360
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tttcaactgcc atcctctgga ttatgtcttc tgacctgtcc attttgaccc attaactgga 480
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a 601

<210> 72
<211> 601
<212> DNA
<213> Homo sapiens

<400> 72
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gttggaaaaac tacattaact gggaaagttga aaaactacat tactttggag aataaaaccg 180
aaagttcgtg tataccttct taaaaaaaaa atcaaaccaa aaatgtgaaa acaatagaat 240
tgcaaagata gcagttaaaa tttaatctg aaaataacct ttgaatctcg ggcttaggtt 300
ygtccatatt tgaagtggtc agtgcattttt tttgcaggatg agttaaaatgt 360
cactggatta tatttggat ttttggat ttttggat ggaattgtct gtttaatca cagccttaat 420
tcacaattgg caaaggcagt ttactcaaag gactggctt aatattctgt aattatgcatt 480
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agtggggcat ggtcttggct cactgcagcg ttgaccacct gggctcaagt gataactcccg 600
c 601